

**WHAT IS CLAIMED IS:**

1. A cathode for use in the refining of metals, comprising:  
a substantially flat deposition plate fixedly attached along an upper edge thereof to an elongate hanger bar thereby defining a connection;  
a protective cladding abutting said deposition plate and at least partially surrounding said hanger bar such that a cavity is defined in the region of said connection; and  
a corrosion resistant material filling said cavity;  
whereby said corrosion resistant material prevents corrosive substances from penetrating said connection.
2. A cathode as recited in claim 1 wherein said deposition plate is attached to said hanger bar by means of at least one weld.
3. A cathode as recited in claim 2 wherein said corrosion resistant material prevents corrosive substances from penetrating said weld.
4. A cathode as recited in claim 1 wherein said corrosion resistant material is an epoxy resin.
5. A cathode as recited in claim 1 wherein said deposition plate and said cladding are fabricated from stainless steel.
6. A cathode as recited in claim 1 wherein said cladding is attached to said deposition plate by means of at least one weld.
7. A cathode as recited in claim 1 wherein an inverted v-profile is machined in a lower edge of said deposition plate.

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8. A method for fabricating a cathode assembly for use in the refining of metals, said cathode being of the type comprising a deposition plate for electrodepositing metals, said method comprising the steps of:

- (a) providing a substantially flat deposition plate having an upper edge;
- (b) fastening an elongate hanger bar on said upper edge of said deposition plate, thereby providing a deposition plate assembly;
- (c) securing a protective cladding to said deposition plate assembly so as to substantially overlay the area of fastening between said hanger bar and said upper edge of said deposition plate, thereby defining a cavity between said cladding and said deposition plate assembly; and
- (d) filling said cavity with a corrosion resistant material thereby providing a fabricated cathode assembly.

9. A method for fabricating a cathode assembly as in claim 8 wherein said fastening step includes welding said upper edge to said hanger bar.

10. A method for fabricating a cathode assembly as in claim 8 wherein said filling step comprises boring at least one hole in said protective cladding and injecting a liquid phase of said corrosion resistant material into said cavity, said corrosion resistant material subsequently hardening into a solid phase.

11. A method for fabricating a cathode as in claim 10 wherein said corrosion resistant material is an epoxy resin.